

From: Melanie Cerullo <mcerullo@ameridose.com>
Sent: Friday, March 14, 2008 11:07 AM
To: 'steveh@conigliaro.com'; 'bob.kaiser@liberty-ind.com'; 'dfleck@victoryhvac.com'; 'jeff.erickson@liberty-ind.com'
Subject: RE: RE: Ameridose - Ceiling tiles not seating

All

I am not sure why the pressure in the new Clean Room is set to 0.2 inches of water. The existing clean room which is much larger is only set to **0.06 in water**.

If you look at my email below where I put specific requirements that I needed for this room, the only thing I said about static pressure was that the clean room specifically needs to maintain a pressure of at least **0.02 in water and it should have an alarm when the pressure falls below that value** because that is specifically called out in the regs. See red text below.

I did not state specifically what the pressure in each room needs to be. I only said they need to be positive relative to the dirtier areas, which is obvious from a clean room perspective. I am not an HVAC expert. I do not define pressure set points. I only tell you my requirements.

I do not know why the pressure in the new clean room is set so high. Did someone make a mistake and mis-read my requirement below and think 0.02in of water meant 0.2in of water. And if they did, doesn't that seem like a really high pressure for a clean room and shouldn't it have been questioned. I know only a limited amount about HVAC but I am pretty sure that in any setting 0.2in of water is high for a clean room. Why would this value be chosen by people in the first place? In my previous company, I had clean rooms with rigid ceilings that were 4000 sq feet that only had a static pressure of 0.15in of water.

I would think that people who routinely design clean rooms would 1) know that 0.2in of water is a high pressure which might lead to ceiling tiles and doors being popped and 2) know what the pressurization scheme should be for a clean room without me having to define it. I should not have to tell anyone "set the pressure in this room to X, set the pressure in this room to Y" that is the expertise we are paying for.

I sent these requirements a month ago and if there were any questions or if I was not clear in my request I should have been asked then not when the room has been turned over to us.

My requirements were specifically sent to Victory and I am not sure if Liberty was given this information, but regardless my needs are defined below, including the need for calibrated probes which has still not been resolved.

I would like a response to the following right away

- When will the pressure values be corrected and will that require re-certification of the room because we are lowering values?
- When will the display be installed so I can view temp/pres/humidity at the display
- When will I be assured that whatever reading I am seeing for temp/pres/humidity is from a calibrated source, whether that is the probe being calibrated or the display I am not sure

Thank you
Melanie

From: Melanie Cerullo <mcerullo@ameridose.com>
Sent: Tuesday, February 19, 2008 9:32am
To: 'Don Fleck' <dfleck@victoryhvac.com>
Cc: 'Steve Higgins' <steveh@conigliaro.com>
Subject: RE: Ameridose

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This looks like it has all the functionality and more. Probably more bells and whistles than we will need to use. Here is the exact break down of what I would like to be able to see.

If this gets really cost prohibitive I want to know about it because I could probably scale back, but this is the ideal.

Display Panel

Temperature for each room individually (Clean Room 2, Middle Room 2, People Room 2, Freight Room 2) – the “2” designates the difference between the other set of rooms we have

Humidity for each room individually

Static pressure for each room individually

Differential Pressure as follows

DP for Clean Room relative to Middle Room

DP for Middle relative to People Room

DP for Middle relative to Freight

DP for People relative to exterior

DP for Freight relative to exterior

I want continuous monitoring for these values so I can see performance over time. I am open to suggestions for the number of points that should be collected to minimize data storage needs. I was thinking about 1 point every minute but again if that is going to be data overload, let me know and I can re-adjust.

Here are the alarm set points, both local (on the display) and for remote data collection.

Temperature - 60-77F for all rooms

Humidity - 20 - 65% for all rooms

Static pressure - the only alarm I need for static pressure is on the Clean Room. Clean room must maintain a pressure of 0.02in of H₂O relative to the exterior at all times. Set the static alarm at anything below 0.02in h₂o. **This is a specific requirement for USP 797**

Differential pressures- since I do not yet know how the room is going to perform, I am only going to set alarm points when pressure goes negative to an adjacent space. In the future, I might have data to be able to modify to a value that alarms before it actually goes negative.

DP for Clean Room/Middle Room - alarm when clean room is no longer positive to middle

DP for Middle Room/People Room - alarm when middle room is no longer positive to people

DP for Middle Room/Freight Room - alarm when middle room is no longer positive to Freight

DP for People room/exterior - alarm when People room is no longer positive to exterior

DP for Freight room/exterior - alarm when Freight room is no longer positive to exterior

There should be a delay for all alarms. I am choosing 10 minutes because it allows sufficient time to transport material into and out of the room.

All probes (temp/humid/pres) that are installed need to be calibrated and serialized and I need to have the calibration certificates. If this is not something you can have done, let me know ASAP as I have to have a company come in and do it when they are installed.

I would like to discuss with the appropriate person, the functionality associated with remote monitoring and alarming. Not sure who that person is.

Also, will there be any air velocity sensors, is that something that is routinely monitored??

Call me if you have any questions.

Thanks
Melanie

From: Steve Higgins [mailto:steveh@conigliaro.com]
Sent: Friday, March 14, 2008 9:39 AM
To: Melanie Cerullo
Subject: FW: RE: Ameridose - Ceiling tiles not seating

-----Original Message-----

From: George Pollick <gapceng@liberty-ind.com>
Sent: Friday, March 14, 2008 9:20am
To: steveh@conigliaro.com
Cc: bob.kaiser@liberty-ind.com; 'Don Fleck' <dfleck@victory-lvac.com>; Jeff Erickson <jeff.erickson@liberty-ind.com>
Subject: RE: Ameridose - Ceiling tiles not seating

Victory Heating is fully aware that the pressure differential from the cleanroom to the atmosphere outside the cleanroom is (or on 03/06/08 was) 0.2088" water. In Liberty's opinion that pressure is high for a cleanroom and is the reason the ceiling tiles will not stay seated.

However, Ameridose must decide where it wants the pressure. What value do you want to hold in the cleanroom when all doors to the cleanroom are closed?

If it is 0.2088, Liberty Industries will develop a means to hold the tiles in place. If it is more in the neighborhood of 0.10" water, the clipping of the ceiling tiles will hold them in place.

Please let Liberty and Victory know what pressure you want to maintain.

Also, as we have told you, the ENV test report should be in our hands early next week and we will forward that to you.

From: Steve Higgins [mailto:steveh@conigliaro.com]
Sent: Thursday, March 13, 2008 5:20 PM
To: Jeff Erickson
Cc: 'George Pollick'; bob.kaiser@liberty-ind.com; Don Fleck
Subject: RE: Ameridose - Ceiling tiles not seating

Jeff,

That is correct. That is also why Victory HVAC requested ENV data to rectify this problem. This was requested of Liberty (Jeff E) on Thursday 3/06/08 by phone, by myself. To quote your email: "(Based on ENV Services March 06th field notes, they recorded pressures of .2088 in/h20 between the main cleanroom and atmosphere outside of the room.)" This is exactly what was requested. Was this forwarded to Victory?

Steve H

-----Original Message-----

From: Jeff Erickson <jeff.erickson@liberty-ind.com>
Sent: Thursday, March 13, 2008 5:05pm
To: steveh@conigliaro.com
Cc: 'George Pollick' <gapceng@liberty-ind.com>; bob.kaiser@liberty-ind.com
Subject: Ameridose - Ceiling tiles not seating

Steve,

The following work was done onsite - Wednesday, March 12th, 2008:

You pointed out two (2) ceiling tiles located in the 9'-0" high ceiling area and four (4) ceiling tiles in the 8'-0" that were not seated on the ceiling grid.

The two (2) tiles in the 9'-0" ceiling were "weighted" and re-secured with ceiling clips. I evaluated the

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remaining tiles in this area and corrected three (3) others.

Four (4) tiles in the 8'-0" ceiling were "weighted" and re-secured with ceiling clips. While I was working on the last two (2) tiles, I heard ceiling tile clips popping off the T-grid. Four (4) new additional tiles were now popping up near the Cart Pass Thru.

(Based on ENV Services March 06th field notes, they recorded pressures of .2088 in/h20 between the main cleanroom and atmosphere outside of the room.)

I identified what was happening because of the present air pressures in the cleanroom.

Sincerely,
Jeff Erickson
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East Berlin, CT. 06023
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